

United States

Circuit Court of Appeals

For the Ninth Circuit.

NORTHERN IDAHO AND MONTANA POWER
COMPANY, a Corporation,

Plaintiff in Error,

vs.

A. L. JORDAN LUMBER COMPANY, a Corpora-
tion,

Defendant in Error.

**SUPPLEMENTAL AND REPLY BRIEF
OF PLAINTIFF IN ERROR.**

Upon Writ of Error to the United States District Court of the
District of Montana.

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Supplemental and Reply Brief for Plaintiff in Error.

The findings of the Court were special. They are not marked or designated findings or conclusions, but in every essential they conform to the rules of the District Court and rules laid down in the various federal cases on the subject. For the sake of convenience, we have numbered these findings and here set them forth as follows:

FINDINGS AND CONCLUSIONS OF THE
COURT.

1. Within the mill the instrumentalities were plaintiff's, and that a year before the fire they had been condemned by the insurance underwriters and

that they were still in process of uncompleted change at odd times by plaintiff's planerman and men supervised by him.

2. That the fire was caused by the electric current, and based this argument on the suggestion that where electric current is used, there is a probability that the current caused the fire. Then by a process of elimination he excludes other probabilities.

3. The Court finds that the system within the mill was a fire hazard.

4. That without the mill, the instrumentalities were defendant's. That is to say, the high-tension wires, the lightning-arrester and the transformer.

5. That one of the lightning-arresters was in a defective condition which caused it to operate as a continuous ground of the primary wires.

6. That this grounding would tend to induce grounding elsewhere, creating a condition favorable to fire.

7. That plaintiff's defective instrumentalities within the mill might cause fire but that it is more probable that the arrester caused it.

8. That to create a condition favorable to set fire there must be two groundings of the wiring.

9. That the arrester, a continuous ground would probably set fire whenever another ground was by it induced or which happened in the mill.

10. That plaintiff's defective instrumentalities did not set fire until two grounds occurred in the mill.

11. The probabilities are two to one in favor of the theory that the arrester, operating with one ground in the mill as it would, is the cause of the fire.

12. That the mill's defective instrumentalities might have been an agency is not suggested by the defendant, save that plaintiff's failure to ground its conduits is claimed to be contributory negligence.

13. Contributory negligence is not pleaded and does not appear.

In support of this finding the Court argues that plaintiff was not bound to anticipate defendant's negligence, and that plaintiff might be willing to hazard all accidental damage which it might avoid by grounding its conduits, but thereby did not assent to nor assume the risk of damages by defendant's negligence.

14. The arrester defective and causing the fire, the burden is upon the defendant to rebut the negligence arising therefrom.

15. As to whether the arrester was sound when placed in possession or whether due inspection was made does not appear.

16. The Court finds to the effect that the transformer was not in any wise defective.

17. That it was and is in doubt whether it is the better practice to ground the secondary wires or the neutral wire at the transformer so far as fire hazard is concerned. That such grounding tends to increase some hazards but decreases others; but the failure to ground "was not negligence."

The foregoing findings are specific. Every issue raised by the pleadings or suggested by the evidence has been covered by a finding of the ultimate fact in a concise way. The fact that each finding has

been supplemented by argument does not alter the character of the findings as such.

I.

AS TO THE TESTIMONY OF PLAINTIFF'S EXPERTS CONCERNING THE RELATION OF THE TRANSFORMER TO THE PROBABLE CAUSE OF THE FIRE.

On page 24 of our original brief we call attention to the testimony of the witness Utter concerning a supposed defect in the transformer and referred to page 38 of the record.

In this connection it is pertinent as well as interesting to note that in the testimony of the two experts, who testified in behalf of defendant in error, reference is made to the supposed defect in the transformer some thirty-six times, and, on cross-examination of the expert witnesses of plaintiff in error, counsel for the mill company refer to the transformer five or six times. These figures are interesting and pertinent for the purpose of showing, when taken in connection with the actual evidence given and the questioning on cross-examination, that the reference to the transformer was not a casual reference nor a hasty or ill-considered statement on the part of the witness, but go to show clearly and without question that the theory of the defendant in error and its witnesses is based entirely upon a supposed defect in that particular piece of equipment.

On page 37, Mr. Utter, referring to the transformer, says:

“It was not grounded on the secondary at that time. * * * Assuming that the sec-

ondary was carrying a voltage in the neighborhood of one hundred ten volts, the secondary should have been grounded, and if it were not grounded, and with this lightning-arrester in the condition it was, there would be an additional hazard, from this defective lightning-arrester. The lightning-arrester would offer a high resistance ground,—that is, on the one side of the primary line. The current would naturally take the least course of resistance. *If there was a proper ground there would be no chance for an arc because it would go right to the ground.*” (R. 37, 38.) (Italics ours.)

On page 38, in addition to the language quoted in our former brief, Mr. Utter describes the manner in which there could be a leakage through or around the transformer, and says:

“It would probably run into some of the wiring and finding a weak spot some place—and create a fire hazard under the conditions of a high resistance ground.”

The witness then states that he saw one of the transformers and described its appearance.

We now invite the Court’s attention to the hypothetical question based on Mr. Utter’s testimony and other evidence in the case. After stating the condition of the weather; the depth of snow on the ground and on the roof of the mill; the fact that the mill was clean; the switch open on the power circuit and closed on the lighting circuit; the fact that there had been no fire in the mill for several hours;

the fact that the buildings were locked, etc.,—counsel for defendant in error says:

“The secondary on the transformer was not grounded; the lightning-arrester was in the condition in which you have described it. From the primary there was coming a current with a voltage of about twenty-two hundred volts. [The word “thousand” in the transcript being an error.] The interior wiring was in steel conduits and inside the steel conduits there was insulated wire. Also there had been observed immediately previous this condition: That an electric iron attached to the lighting system in question would become red hot in a matter of seconds or probably less than a minute. The lights were burning out. What would you say as to the probable cause of the fire in the mill?”
(R. 39, 40.)

On cross-examination, at page 42, in speaking of the surges in the line or the intermittent flow of electricity on account of the lightning-arresters, Mr. Utter says:

“I don’t think it would bother the transformer working as long as there was no other ground on the other side. That leakage in the lightning-arrester might cause an excessive current to pass through the transformer or by it—for instance, part of the secondary might have been out of commission because of the ratio of increase.”

On page 43 the witness says:

“The voltage would be increased on the wire between the lightning-arrester and the transformer *by reason of the defective condition of this transformer.* (Italics ours.) I do not mean that the lightning-arrester would have the effect of becoming a transformer and raising the voltage.”

On page 50 the witness Stiles testifies that the lightning-arrester would perform its functions “if the secondary was grounded with the neutral wire.”

On page 59 the witness Kimmel testifies:

“I should say that this neutral wire ought to be grounded in every case.”

And on page 60 says:

“Now, in case of any accidental puncture between your transformer or any connection between them,—between your primary and your secondary wire, it would put two thousand volts on this line,”

And on page 61 he says:

“I meant by that a breakdown in the insulation, between the primary and the secondary or between the primary lead wire in the case, and back again to the lead wire in the secondary.”

“Q. Well, I will have to ask you for another explanation. What do you mean by a breakdown?”

“A. A breakdown in the transformer would be a case where the insulation had failed to hold and perform its functions.”

On page 62 the same witness in answer to question of plaintiff's counsel describes how a breakdown in the transformer could occur. Whereupon counsel for plaintiff asks the witness Kimmel to state his opinion as to what happened in the transformer, to which the witness replied on page 63;

“I have a very definite opinion as to what happened there but I don't believe I could tell you why it would happen. I am firmly of the opinion that there was a connection between the primary and the secondary winding.”

The hypothetical question was then propounded as follows:

“Q. I will ask you to take into consideration all of the testimony you have heard in this case, assuming that you have heard it all,—and I think you have,—and tell us if you are able to your own satisfaction to form an opinion as to what caused that fire?”

To which the witness replied, “An electric arc in the mill.” Immediately his attention is called by counsel for plaintiff to the testimony that the transformer was burning on the inside and was asked what importance would he attach to that fact, to which he replied:

“Well, that, in my mind, would lead me to believe that there was a connection between the primary and the secondary in that transformer and undoubtedly that there was an arc in the transformer and that it was in the same circuit as the other arc was.”

“Q. How would that set that other fire?”

“A. Wherever that went to ground to complete the circuit.”

He then states that he found the current might have gone to ground in the mill. On page 64 the following question is asked of the witness by plaintiff’s counsel:

“Q. Taking the description of that mill as you have heard it here, together with the wiring, insulated by means of metal pipe running along the joists and to the various motors and light sockets, etc., how does it come out, and what sets the mill afire?”

To which the witness answers:

“The connection between the primary and secondary with a 2,000-volt circuit would, of course, be scattered throughout that mill.
* * * I should say that somewhere between 1,500 and 2,000 volts got into the mill.
* * * ”

On page 65 the same witness expresses the opinion that the fact that the transformer was afire could be eliminated and still he could form an opinion that the transformer had in fact failed. At bottom of page 66 witness Kimmel says:

“Well, the transformer was described to be afire at the same time that the mill was afire, and in addition to that, there were two simultaneous fires. One in the transformer and one in the mill. That, to my notion, would tend to make me believe that an arc through the one

caused the fire in the other. An arc through the transformer caused the fire in the mill.”

And on page 67 he says:

“The grounding of the neutral, if there had been a ground on this transformer, would have made the mill safe.”

On page 69 he says:

“When you find the conditions as they have been described to have been in this case, I would expect to find a sustained arc at some point in the plant, wherever the conditions were favorable.”

Upon page 71 he says:

“And supposing there was a ground somewhere between the generation plant and the transformer and you haven’t a ground like the wet beams in the mill, the current would flow through there to wherever the right point was to set fire to the building. *And if the neutral wire were grounded, I should say that would not happen.*” (Italics ours.)

On page 73 the witness says there was a place on the transformer provided to conform to the underwriters’ rule requiring the grounding of the neutral wire. On page 76 the witness says that the breaking of certain pieces of porcelain on the transformers might allow a connection between the case and lessen the resistance between the primary and secondary wires in the transformer. On cross-examination, at page 78, the witness Kimmel says:

“In making up my mind I have been influenced by certain facts which I have assumed to exist, as the basis upon which I made up my mind.”

(These facts which Mr. Kimmel assumed to exist will shortly be called to the attention of the Court.)

On page 79, on cross-examination, upon being questioned as to his opinion whether the fire would have occurred under the same conditions if the lightning-arrester had not been installed at all, the following question is asked of the witness Kimmel, and answer given:

“Q. Well, the probabilities of a fire would have been the same, other conditions being the same?”

“A. Yes, probabilities would have been there without that ground on the secondary.

“Q. In other words, if the lightning-arrester was there in perfect order, then the other conditions being the same as you have assumed them, the fire would have occurred?”

“A. The fact that there was a defective lightning-arrester on there shows me that that wire did actually have a high resistance ground there.”

Again, on page 81, the witness Kimmel, referring to the underwriters' rules as to the grounding of the neutral, says:

“I would say in this particular case, a ground on the neutral wire, or if they had that transformer connected up the other way, a ground on either wire would have done the work.

“A good low resistance ground anywhere on the lightning circuit—that is, the secondary between the transformer and the ground would have obviated the danger of an arc incident to a high resistance current.”

Again, on page 82, the witness emphasizes from his viewpoint the importance of grounding the secondary. On pages 85, 86 and 87 the witness Kimmel refers to the testimony of the witness Jordan that the latter saw the transformer burning, that he assumed that the cause of the burning of the transformer was a breakdown inside the transformer. He refers to the supposed statement of Mr. McDonald that one coil in the transformer had been rewound. On page 87 he states that he had a conversation with another party, who saw the transformer and whose opinion had influenced the witnesses' opinion as to the cause of the fire. (Here the witness evidently refers to the supposed statement of Carl Miller, whose testimony will be noticed later on.)

On the same page this question is asked Mr. Kimmel:

“In other words, it all reaches out to the question of the transformer being in disorder?”

“A. Supposing you had a contact between the secondary wiring outside of that transformer—the secondary and the primary. There is probably a most favorable case for it to occur, as in the transformer or in the case around the transformer. If the connection between the primary and secondary wiring was outside of the trans-

former then the transformer would not burn. *My idea about it is that this arc did actually boil that oil and boil it over and the oil would catch afire from the heat after it got outside of the transformer.*”

On page 93, on redirect examination, the witness Kimmel said:

“This outside testimony that I spoke of as taking into consideration was what a gentleman by the name of Miller told me. He is one of the defendant’s witnesses. I saw him in Kalispell, in Judge Erickson’s office. Mr. McDonald, the manager of the Power Company, was not present.”

This conversation with Mr. Miller is referred to on the cross-examination of Mr. Miller, at page 119. There Mr. Miller denies that he ever stated that the transformer was afire. To show the importance which plaintiff attached to the supposed fact that there was a leakage in the transformer from the high tension to the low tension side thereof, the witness Kimmel was called in rebuttal, and at page 145 he says that he was present at a conversation in Judge Erickson’s office and heard the witness Miller say that the transformer was on fire. Counsel for plaintiff then asked this question:

“And that is the thing you told the Court you had in mind when you went outside of the hypothetical question this morning?”

“A. That was the exact thing.”

Fred Utter was also called in rebuttal and testified to the conversation with Miller as also did the witness Stiles. On page 95 Fred Utter was recalled and the following question propounded to him.

“Q. It has been shown in the evidence, Mr. Utter, that one of the coils in the transformer was defective so that it required to be reground. Would that defect in one of the coils in the transformer cause a condition to arise in the secondary which might be a fire hazard, or produce a fire hazard in your opinion?”

To which the witness answered:

“Yes, it would, I think; * * * The two wires of a circuit in an iron pipe has no bad effect if the current is about normal in each wire. But in the case you state, with a defective coil, which could create a condition where there would be a difference in the voltage of probably several volts in the two wires, if they both run in this pipe, each wire would establish a field of its own and they would naturally have to equalize themselves if they both ran in the pipe.”

The witness for defendant testified concerning tests made of the transformers as discussed in our former brief. Our expert witnesses also testified that the transformers were wired and installed according to good practice, also that the alleged defective condition of the lightning-arrester could not have caused the fire, and that there could have been no circuit of the high tension current into or through

the mill without a defective transformer. The importance, however, which the plaintiff attached to the question of the defective transformer is further shown by the questions propounded to the defendant's witnesses on cross-examination. At page 106 defendant's counsel on cross-examination of our witness Mosby asked this question:

“Now, suppose there had been a defect in the insulation of your primary at this point where it enters the case, and another defect at the point where the secondary leaves the transformer; that is, there might have been a connection between the primary and the secondary through the case, that would not be apparent by an examination of the laminations of the coil?”

And on page 107 the same witness on cross-examination is asked if he heard the testimony of Mr. Stiles and Mr. Utter that the taping was so burned that they could peel it off easily. At page 114 our witness McDonald was cross-examined as to an alleged conversation in which he was supposed to have stated that one coil in one of the transformers was rewound. At page 119 our witness Carl Miller was cross-examined as to his alleged statement that the transformer was burning. On pages 131 to 133, inclusive, our witness Clingerman is cross-examined at length upon the subject of the supposed defective transformers. On pages 141 and 142 our witness Dow is cross-examined on the subject of defective transformers, and on page 142 this question is asked and answered:

“Q. Now, I will get you back to the other proposition: If this fire were caused by a contact between the primary and the secondary in the transformer, or some defect in the transformer, and there had been a neutral grounding on the transformer which had taken care of the condition that was brought about by the defective wiring there getting together, then it wouldn't make any difference what the condition of the conduit system in the mill was, would it?”

“A. I cannot say that it would.”

Again, on pages 143 and 144, on recross-examination of the witness Dow, counsel for plaintiff emphasizes the importance of the transformer by referring again to the underwriters' rules.

II.

From the foregoing it is clear that in forming their respective opinions as to the cause of the fire, the experts for plaintiff had in mind a defective transformer, and that in formulating a theory upon which a recovery might be had counsel for plaintiff had the same condition in mind. Mr. Utter testifies that he made the examination of the lightning-arresters a short time after the month of December, 1916, which presumably would have been in January, 1917. (R. 36.) The complaint was filed on February 24, 1917, so it must be apparent that the supposed defective condition of the lightning-arrester was known to plaintiff at the time of commencing suit.

It is a matter of some significance that while the complaint charges negligence in the installation of wires, poles, conduits, converter-boxes, transformers,

fuses and plugs, no reference is made to lightning-arresters, and that particular apparatus was brought into the case under the generality, "other necessary electrical apparatus." Conceding for a moment that lightning-arresters are not *necessary* electrical apparatus under the testimony of Mr. Kimmel, to the effect that the fire would have occurred under the same conditions whether the arresters were there or not, the attention of the Court is invited to the following significant language of the complaint:

"And by reason of said carelessness and negligence such great voltage or load of electricity was carried *to and upon the wires* upon and within the premises of the plaintiff, and by reason of said excessive voltage and *overloading of wires* the premises caught fire," etc.

From this complaint it is impossible to gather the inference that the fire was caused by other than one or both of two acts or omissions amounting to negligence, first, that by reason of a defect in the transformer (the transformer being the known buffer of insulation between the high tension current and the service current delivered to customers), the high tension current escaped from the primary wires and was carried to and within the building *on the secondary wires* connected with the plaintiff's equipment; or, second, that it was the duty of the defendant to install, inspect and keep in repair the interior wires and apparatus of the plaintiff, and that by reason of its failure in this respect a fire occurred with the resultant destruction of the mill. We think that a fair interpretation of the language of the complaint

leads to the conclusion that it was this second cause of action, and none other, that is alleged, and of course it follows, if this be true, that the plaintiffs are not entitled to recovery, for the reason that all of the evidence shows, and the finding of the Court is to the effect, that within the mill the instrumentalities were plaintiff's, and no duty rested upon defendant as to installation, inspection or maintenance; but assuming that the complaint charges actionable negligence upon the part of the defendant, it is clear that that negligence is confined to the act of conducting an excessive load of electricity to and upon the premises in question *upon the wires leading into the mill*, and does not presuppose or suggest a case of negligence in permitting a ground to occur upon the defendant's main transmission line and thence to flow to some point where it was intercepted by the instrumentalities of plaintiff and carried into the mill. In other words, it is impossible to gather from the complaint an allegation or charge that will sustain the theory adopted by the Court. This is not a case where the defendant is estopped from urging a variance or failure of proof in this court; nor is it a case where the Court would be justified in treating the complaint as amended to conform to the proof, for the very palpable reason that there is no proof to warrant the Court's conclusion as to the cause of the fire, and we were not given an opportunity to object to evidence or make an appropriate motion on the ground of variance or failure of proof. If plaintiff is entitled to recover, that recovery must be had on the theory on which it

framed its complaint and introduced its evidence. The Supreme Courts of Montana and the United States have repeatedly held that although the defendant may be negligent, still if the negligence proved is not the negligence alleged, the plaintiff is not entitled to recover.

Potter vs. Texas & Pac. Ry. Co., 179 U. S. 658, 45 L. Ed. 361, 21 Sup. Ct. Rep. 275, cited with approval in Andree vs. Anaconda Min. Co., 47 Mont. 554.

It hardly seems necessary to cite authorities on a question of practice as fundamental and so well settled as the one involved here, but, inasmuch as the Supreme Court of the United States has very recently been called upon to restate the rule applicable to this question, we take the liberty of quoting from that case.

“Where any fact is necessary to be proved, in order to sustain the plaintiff’s right of recovery, the declaration must contain an averment substantially of such fact in order to let in the proof. Every issue must be founded upon some certain point, so that the parties may come prepared with their evidence, and not be taken by surprise, and the jury may not be misled by the introduction of various matters.”

Garrett vs. Louisville & N. R. Co., 235 U. S. 308, 35 Sup. Ct. Rep. 32, 59 L. Ed. 242.

Under the Court’s theory it must be apparent that the negligence of the mill company was the proximate cause of the fire, if the fire was electrical, be-

cause under that theory any amount of current flowing from the primary wires through the lightning-arrester would be harmless and would necessarily be dissipated in accordance with the normal purpose of the lightning-arrester, unless some other cause operated to absorb the grounded current and transferred it to the mill. The Court found that this cause was a ground in the mill and, even then the current would be harmless unless a condition existed in the mill favorable to the creation of an arc, because without the arc or heating of the wires adjacent to inflammable material the fire could not have occurred. Hence the negligence of the mill company, first, in permitting to exist in its plant a condition that would complete a circuit from a lightning-arrester functioning normally, and, second, in permitting its service or secondary wiring to become in such a condition or to be carried so close to metallic motors or inflammable material, or in permitting the insulation thereof to become worn or defective so as to constitute a condition where an arc could not be formed in the mill.

There is no support in the evidence, for the conclusion of the Court that the grounding of the primary wires, by means of the lightning-arrester, would tend to induce grounding in the mill. In coming to this conclusion the Court evidently had in mind the testimony of Mr. Kimmel, found on pages 65 and 66, to the effect that when you find one ground on a high tension wire, the tendency of an electric current is always to seek a path to close that circuit up and make a short circuit, that is, to

seek a second ground. Of course the witness said the tendency was to seek a second ground in the same circuit and to close that circuit up. This does not mean, of course, that the tendency is to induce a ground in another and independent circuit or to seek a ground in another or independent circuit. Under the testimony in the case, both on the part of the plaintiff and defendant, it is clear that there is no tendency for a grounded circuit to seek a ground in some other circuit. In fact, as has been shown by the testimony of these experts, that condition never occurs.

Inasmuch as this case begins and ends at the transformer, and in support of the Court's finding as to that particular piece of equipment, we think we may be pardoned for going outside the record for a moment in order to call the attention of the Court to the general character and efficiency of transformers in general.

In a paper read before the American Institute of Electrical Engineers at Pittsfield, Mass., in 1917, Mr. D. W. Roper, electrical engineer for the Commonwealth Edison Company, supplying current to the city of Chicago and its environs, thus introduces the subject of line of service transformers:

“Within recent years the line transformer has been developed by the manufacturers into one of the most efficient and reliable pieces of electrical apparatus.”

The paper in question was the result of a year's observation of the operation of 15,000 line transformers under the supervision of Mr. Roper; during the period mentioned a record was kept. The result of

the record is shown in the accompanying tables. Commenting on this record the authority says:

“That the transformer is a reliable piece of apparatus is evidenced by the fact that last year the total cost of maintenance and repairs of all transformers on the distributing system with which the author is connected was about 2 per cent of the value of all transformers at present prices. This figure indicates that any suggestions for improvements would be in the nature of refinements in design or construction, and further that if such refinements involve any material increase in the price, they would be justified only for those companies which place a high value on continuous service to their customers.”

TABLE I.
Record of Transformer Troubles for the Year 1913.

Size of transformers.	Cause of Troubles.						Total transformer in service Dec. 31, 1913.
	Lightning.	Overloads.	Defective.	Grounds and short circuits on secondary wiring.	Miscellaneous and unknown.	Totals.	
Number of cases of trouble.							
1	4	—	2	—	2	8	444
1.5	26	2	4	2	12	46	1,108
2	16	2	1	3	6	28	1,100
2.5 and 3	21	3	3	2	3	32	2,235
4	13	2	4	—	2	21	1,056
5	9	—	4	1	6	20	1,951
7.5	23	—	2	—	11	36	2,071
10	9	—	2	1	1	13	1,626
15	2	1	—	—	—	3	1,113
20	1	—	—	—	—	1	515
25	1	—	—	—	—	1	350
30	1	—	—	—	—	1	207
37.5 and 40	—	1	—	—	1	2	139
50	2	1	1	—	1	5	241
75	—	—	—	—	—	0	43
100	1	—	—	—	2	3	54
150	—	—	—	—	—	0	3
200	—	—	—	—	—	0	16
250	—	—	—	—	—	0	2
Totals,	129	12	23	9	47	220	14,274

Total capacity, 129,056 kw.

Approximate total value at present prices, \$1,000,000

TABLE II.
Record of the Fuses Blown and Cut-outs Destroyed During the Year 1913.

	Due to Lightning.	Other Causes	Total.
Fuses blown	911	678	1,589
Transformers burned out	129	91	220
Total cases of trouble.....	1,040	769	1,809
Cut-outs destroyed	77	332	409
Ratio of cut-outs destroyed to total cases of trouble	7.4	43.	22.5

IN DEALING WITH A SUBJECT OF THIS KIND, SPECULATING OR THEORIZING MAY SOMETIMES LEAD TO DISASTROUS AND UNJUST RESULTS.

Our contention is that the transformer must in any event be taken into consideration if negligence is to be fastened upon the defendant. It will be noticed from the foregoing excerpts from the evidence that plaintiff's expert witnesses noted the failure of the power company to ground the neutral wire at the transformer, or, in other words, to ground the secondary system, and one of the witnesses testifies that if the neutral wire had been grounded, the fire could not have occurred.

Now, let us take this theory of plaintiff and try to fit into it the theory eventually adopted by the Court and note the result:

The grounding of the secondary system would have been accomplished by a wire or other low resistance conductor attached to the neutral or one or both of the secondary wires, and extended to some natural or specially prepared ground, so that in the event of a leakage from the high to the low tension side of the transformer, the excess current would be dissipated by the low resistance working ground thus created. Let us assume that such a ground was established. Now, let us examine the theory of the Court in connection with such a situation. The Court found that there was an accidental ground between the transformer and the substation at Kalispell, i. e., the defective lightning-arrester, and assumed that the current passed from the primary

wires to the ground, thence to the mill, thence through an accidental ground into the mill, and that within the mill an arc was formed, adjacent to inflammable material, thus causing the destruction of the plant.

Now, let us suppose that there was no accidental ground within the mill or in connection with the conduits or other appliances under the control of plaintiff; or let us suppose there was an accidental ground, the result would be the same as will be shown.

Now, note the result—the current passes from the high tension or primary wires through the lightning-arrester to ground, it then seeks the second ground and finds it nicely prepared at the transformer poles; it follows the working ground, prescribed by plaintiff's experts, to the secondary wires leading into the mill; thus the transformer is bridged, and as a result the entire two thousand volts are discharged through the secondary wires into the mill, thus creating the condition which the complaint says existed. It follows, then, that if we had done that which plaintiff's experts say we should have done, we would have created a fire hazard, and by omitting to do it we avoided one. It is no answer to this contention that such a condition would be impossible, for the reason, and the very logical and true reason, that the primary current carried into the ground could not enter the mill until it had first found a connection with the primary current, and that by reason of the insulation provided by the transformer, that result would be impossible, because it is the theory of the Court that it was not necessary to complete the high tension circuit.

Now, let us suppose another case in line with the Court's theory and note the result.

“The lightning-arrester is a piece of electrical apparatus to lead off lightning charges to ground from the system or any other overcharge or excessive voltage and especially lightning.” (Testimony of Kimmel R. 53 and 54.)

Now, let us suppose a perfect transformer such as the Court found in place at the mill; let us also suppose that all three of the lightning-arresters were in perfect order and performing their normal functions; also let us suppose a ground in the mill (which is not a very violent supposition in view of the manner in which the mill equipment was installed and maintained). Now, let us suppose a violent thunderstorm or a breakdown in the heavy duty transformers in the Kalispell substation; in that event the primary wires are charged with electricity from the thunderstorm or the breakdown in the heavy duty transformer at the substation, the load of electricity superimposed on the primary wires would probably equal or exceed twenty thousand volts. It would be the duty of the lightning-arresters in that event to carry off the excess voltage, “disrupt the arc and restore the line to its normal condition.” (Testimony of Kimmel R. 54). Now, if the theory of the Court that a connection between two systems could be formed through two simultaneous grounds, one in one system and one in the other, with a buffer, insulator or circuit breaker, such as a transformer is supposed to be, separating one system from the other, the excess current would be carried to ground, thence to the mill

and a load approximating twenty thousand volts would be carried into the mill upon the one hundred and ten or the two hundred and twenty volt wires, thus creating a condition which would bring about the total and instantaneous destruction of the mill and its contents. Such a load, of course, carried into the small wires of the mill would cause such a degree of friction as to shrivel the mill appliances, melt the metallic frames and parts of the motors, and generate a degree of heat sufficient, as before suggested, to destroy the mill and equipment almost instantaneously. Again, it is no answer to this suggestion that the transformer—if in perfect working order—would prevent this condition by reason of its insulating qualities. Thus electricity as a commercial or industrial factor would be put out of business, for the reason that human foresight and ingenuity could not guard against disaster where its use is employed. The legal effect of such a theory in its last analysis would be to make public service corporations of this kind insurers and would engraft upon the law of negligence in this respect the doctrine of *res ipsa loquitur*. Both of these doctrines have been repudiated by the courts with practical unanimity in cases of this kind. Such a theory absolutely excludes from consideration negligence on the part of the consuming company whether such negligence contributed to the injury or, in fact, constituted the proximate cause thereof. This can be shown by simple illustration: Thunderstorms are a frequent occurrence. A man installing electrical machinery in his place of business is naturally supposed to know this. The likelihood

of an electrical current from the clouds following copper wires of low resistance to lightning-arresters presumably is within the knowledge of ordinary men. Now, to say that a man, knowing these things, may carelessly install electrical apparatus in a mill, in comparatively close proximity to a high tension line equipped with lightning-arresters, and thereby inviting disaster, is to be excused or exonerated, is certainly new and novel doctrine.

Now, let us suppose another case in line with the Court's theory: The lightning-arresters are, so far as the record in this case shows, approved and up-to-date appliances in general use for the purpose of dissipating lightning charges. Now, let us suppose that adjacent to a high tension power line equipped with lightning-arresters, and that in comparative proximity to such lightning-arresters a small industrial plant should be established, this plant generating its own electricity for lighting and power purposes by means of steam, gas, water-power or otherwise, with the ordinary equipment such as wires, sockets, metal conduits, etc., the system being grounded as a protection to life or property or both. A stroke of lightning loads the high tension wires referred to with a heavy charge of electricity, say twenty thousand volts, and the excess current is grounded by means of the lightning-arresters. Now, if the Court's theory is correct, the current thus grounded would be carried into the industrial plant mentioned, form a connection with the electrical system there and destroy the plant. The injury would be caused by the precaution which the power company had taken to insure the

safety of the lives and property of its customers and by the co-ordinating precaution, taken by the industrial company to ground its system within its plant. It is no answer to this contention that such a supposition is impossible because here are two entirely separate and distinct generating systems, because under the Court's theory that makes no difference. There is no essential difference between the case above supposed and that supposed by the Court.

The whole range of electrical industry and activity would be affected if the conclusion of the Court had a legal or scientific basis: Parallel and intersecting light, power and transportation lines would be impossible, for the reason that intentional grounds are part and parcel of the scheme of electrical distribution and application and accidental grounds are practically unavoidable.

The primary system, assuming a perfect transformer, is as distinct from the secondary system as two separate and distinct generating plants. This will be shown by an illustration showing the difference between electric current transformed by transformer and a current of water—flowing through pipes of different sizes, for instance, a water-pipe of say two inches in diameter, conveys a stream of water by gravity to a certain point and one or more smaller pipes are connected and the water carried off and distributed. The water in the smaller pipe, of course, is the same water conveyed in the large pipe, subject to the same head and influenced by the same pressure; its form, character and identity has in no wise been changed. But an electric transformer is exactly

what its name implies. A current of electricity of high tension is carried into one side; this current sets up a magnetic flux or motion in the iron core of the transformer and the current thus generated is carried out from the opposite side of the transformer by means of the secondary wiring, the voltage of which is determined by the ratio of the coils in the respective sides of the transformer, the ratio being usually ten to one. Assuming a perfect transformer, there is no flow whatever of the primary current to the secondary wires. The transformed has generated, as before suggested, in the iron core of the transformer a new and entirely independent current. As suggested, in our original brief, the case of a steam boiler would be analogous; Heat is generated in the fire-box of the boiler by means of fuel; this heat acting on the shell and tubes of the boiler causes water to boil and form steam; while there is no actual contact between the flames and the water or steam. Now, if there had been, in the case supposed by the Court, an actual contact between the primary and secondary circuits, the Court's hypothesis would have been correct, because in that event the current passing from the supposed defective lightning-arresters to ground, thence to and through the mill, back to the transformer and through the transformer, would have completed the circuit, but in view of the evidence absolutely uncontradicted and, in view of the findings of the Court, these transformers stood there an absolute insulation against the high tension current and an effective circuit-breaker which prevented the excess current coming through the mill, and getting back into the high

tension line. Until that connection is made, all that volume of electricity supposed to have passed through the lightning-arresters is merely a potential, "idle as a painted ship upon a painted ocean"; a bird could have roosted safely on the wires; a man could have held the wires with both hands and the shock he would have received would have been the one hundred ten volts of the lighting circuit only. Electricity in itself is not a source of power; like the belt in a mill or a rigid or flexible shaft, it merely conveys the power produced by a water-wheel or a steam engine. Placed upon the wires of a transmission system, it is idle, harmless and impotent, until in some manner the circuit is completed. So from whatever angle we view the findings of the Court or the evidence in the case, we are led inevitably to the transformer, and no theory predicated upon the negligence of the defendant becomes available until we discover and disclose within or around the transformer some means by which the current passed from the high tension to the low tension side thereof. That passage might have been by means of a puncture within the transformer, or it might have been by means of the too close contact of the secondary and primary wires, or by means of defective insulation at the terminals of the respective systems. But no such conditions have been shown. In fact, it is impossible to gather from the evidence even a suggestion that these transformers or any of them were defective. The man, Carl Miller, whose testimony plaintiff sought to impeach, was not an expert, and his bare statement that the transformers were burning, if he made the statement, which he de-

nies, would carry no weight whatever, and the suggestion of the expert of plaintiff that the defective lightning-arrester might cause deterioration in the insulation and windings of the transformer is too speculative to be worthy of serious consideration, especially when we take into consideration the known stability and dependability of transformers in general.

We have suggested that plaintiff's case shows contributory negligence, and also that whether the negligent acts or omissions of the plaintiff constitute contributory negligence or not, they do offer the basis of a hypothesis, going to show that if the fire was electrical at all, it was caused solely through the mill company's negligence without any contribution to the result by defendant. It will be remembered that one of plaintiff's witnesses testified that the defective lightning-arrester would cause "surges on the line," and the flow of electricity over the line would be intermittent. The power company apparently had no means of detecting these irregularities, and, if they occurred in fact, the effect must have been noticed on the instrumentalities used by and under the control of the plaintiff, and we do not find the plaintiff at any time calling attention of the power company to any defects or irregularities in the service, altho it seems from the testimony of Mr. Jordan, manager of the mill company, that the service had been unsatisfactory for a year before the fire. Here was a business, being carried on, of considerable importance. Lumber or lumber products were being manufactured; the plant presumably was

running night and day, yet for a year before the fire the lights would get dim when the motors were turned on and would brighten up when the motors were disconnected. On page 29 of the record, Mr. Jordan testifies:

“I first noticed that the lights would get dim when the motors were in service about a year before the fire, about the time the bank of the transformers was put in. I could not give the exact date. And that was continuous every time I shut off the motors and left the lights burning,—they would brighten up; every time I coupled up the motors the lights would get dim.”

It is to be noted here that the witness fixes the time that he noticed the irregularity as about the time the transformers were installed, thus evidencing an attempt to connect the particular irregularity with the installation of the transformers; but he never made any serious effort to remedy the defective service, altho the flat-iron in use would get red hot and other irregularities were noticed. (See Record, page 25.) Of course, these irregularities are explained by both the defendant's and plaintiff's expert witnesses as being unimportant, and ordinarily would be anticipated in a plant of this kind. But the fact remains that Mr. Jordan attached considerable importance to them at the time of the trial. Mr. Jordan also testifies that the motors were installed by the plaintiff. These motors were moved around from time to time by the plaintiff and his employees (R. 27). The original wires were ordered out by

the underwriters, and Mr. Jordan and his man, Stiles, installed another system in there (R. 27). He bought some material from the merchandise department of the defendant company, also material from Marshall-Wells & Company, of Spokane. On one occasion the underwriters required him to drop a certain cord and use another of heavier insulation. Now, who is to say that the equipment and material used by the mill company was proper equipment for a plant of that kind, and who is to say that it was properly installed? If a railway company should employ an incompetent person to operate a locomotive and by reason of the ignorance of such person an accident should occur, negligence would be predicated upon the employment of an incompetent engineer. Now, Mr. Jordan employed a "*planer-man*" to install this electrical apparatus, to maintain it and keep it in condition. Mr. Stiles confesses that he is not an electrician, so does Mr. Jordan. If we are bound to assume that the fire was electrical and must therefore find a hypothesis to account for it, we find it in the conduct of the plaintiff company through all the years that this mill was in operation. Apparently the mill company never called in an expert to examine or test or inspect its interior equipment. It may have used on the two hundred and twenty volt circuit wire intended for the one hundred and ten volt—in other words, a wire so small that it would not carry the motor loads without great friction and consequent heat. In moving the motors back and forth, the conduits may have been broken, the insulation rubbed therefrom and the conduits or

wires brought in contact with the iron frames of the motors. Mr. Jordan says that the mill had been running continuously without a shutdown for years. Under high working pressure things must have gone wrong at times with the motive power in the mill; hasty repairs must have been made at times in order that the crew of men might not be standing idle; fuses must have blown out, and probably there were times when new fuse plugs were not available for immediate use. What is more natural to suppose than that some genius who knew more about sawlogs than electricity would bridge the terminals in a fuse plug with a non-fusable wire or a nickle coin or some other means to complete the circuit so that the operation of the mill might be resumed? Such a makeshift would destroy the purpose of the fuse plug, and the nonfusing connection between the terminals would carry the current, even though a short circuit should be formed or a grounding occur, whereas, with the plugs in proper order, the fusible material between the terminals, under such conditions, would blow out and destroy the circuit, thus avoiding the fire hazard. It is a matter of common knowledge that incandescent lights radiate considerable heat. It is also a matter of common knowledge that extension cords are used to a very great extent in residences and in industrial plants. It is reasonable to suppose that in this plant one or more such cords were used. In such event, fire could have originated by reason of the lamp being hung on a wooden wall or adjacent to inflammable material by some thoughtless workman, or the lamp could have been moved about and hung on nails and

hooks until the insulation became worn, thereby creating a condition where a short circuit and arc would occur. We suggest these things in order to show that "all other reasonable probabilities" are not by any means excluded.

It is not unreasonable to suppose that in a mill handling all kinds of lumber, boards and dimension stuff would be thrown about sometimes carelessly and, coming in contact with the wires or other electrical equipment, would cause a displacement of the same or a rupture of the insulating material, thereby creating a fire hazard. Any of these suppositions are just as logical and just as easily deduced from the evidence as the supposition that the fire was caused by negligence on the part of the defendant.

In this connection we desire to invite the Court's attention to a very pertinent fact: The complaint charges, as hereinbefore suggested, the use of certain defective equipment. Among this equipment, lightning-arresters are not mentioned. The lightning-arresters were examined in January; the suit was commenced in February; the plaintiff had the benefit of the expert advice of Mr. Utter as to the cause of the fire, yet the lightning-arresters are not mentioned until just before the trial we are notified by the plaintiff to produce our lightning-arresters in court. The transformers, as suggested by the District Judge and in our former brief, were at all times open to the inspection of plaintiff and its expert witnesses; they were lying upon the ground on the premises of the defendant at the time the test of the

lightning-arresters was made. To examine the lightning-arresters, plaintiff's expert had to commit a technical trespass in order to take them off the poles, and momentarily took from the power line a certain protection placed there by the power company. On the other hand, the transformers were lying upon the ground upon plaintiff's premises, entirely disconnected with defendant's power system. An examination could have been made of them without even the commission of a technical trespass. Plaintiff's experts knew that no matter what the condition of the lightning-arresters, a defect in the transformers must be established before a liability could be fixed on defendant, but, as the Court says, they passed these transformers by and took down and inspected and tested the lightning-arresters. It was within the power of the plaintiff to bring to this Court conclusive and convincing proof of defendant's negligence, if negligence there was, by testing out the transformers and demonstrating that there was a leakage from the high tension to the low tension side, if such were the case. Of course had they done this and found the transformers in perfect order, the proposed lawsuit would have to be abandoned and the claim against the power company would vanish. Apparently rather than to take the chance of such a demonstration and such a result, they preferred to let the matter of the defect in the transformer be established by innuendo speculation, and theorizing on the probable effect of the intermittent action of the lightning-arrester on the transformers themselves. In this connection we desire to call the at-

tention of the Court to the well-established presumption in such case, which has been made a part of the statutory law of Montana:

“The jury subject to the control of the court in the cases specified in this Code, are the judges of the effect or value of evidence addressed to them, except when it is declared to be conclusive. They are, however, to be instructed by the court on all proper occasions: * * *

“6. That evidence is to be estimated not only by its own intrinsic weight, but also according to the evidence which it is in the power of one side to produce, and of the other to contradict; and therefore;

“7. That if weaker and less satisfactory evidence is offered, when it appears that stronger and more satisfactory was within the power of the party, the evidence offered would be viewed with distrust.” Section 8028, Montana Code of Civil Procedure.

DOES NEGLIGENCE ON THE PART OF THE MILL COMPANY APPEAR FROM PLAINTIFF'S CASE?

The charge of the complaint (R. 2-5) is that the defendant “negligently and unskillfully wired said premises” (par. 5, p. 4). The only premises referred to in the complaint are the premises of the plaintiff company, described as its mill and place of business (par. 4 of the Complaint, at p. 3). The complaint in par. 5 further alleges that defendant “carelessly and negligently failed to keep and maintain the same in good repair and carelessly and negligently per-

mitted the said electrical apparatus and fixtures to become worn, damaged and defective, all of which was well known to the defendant, its agents and employees.” This clause refers to the unskillfully wired premises and the electrical apparatus and appurtenances installed therein. Then the complaint alleges that “by reason of said carelessness and negligence, such great voltage or load of electricity was carried to and upon the wires upon and within the premises of plaintiff,” and that by reason of such excessive voltage the premises were consumed by fire. Now, there is nothing in this charge which relates to any electrical appliances or appurtenances other than those upon the premises of the plaintiff company, and nowhere in the complaint is there any suggestion of any other appliances or appurtenances excepting in paragraph 4, where poles, wires, conduits, converter boxes, transformers, etc., are mentioned, and they are only mentioned in connection with the duty of the defendant company to keep the same in repair, and nowhere is it alleged that any of these instrumentalities not on the premises of defendant became or were defective. Now, the complaint potentially sets up not only contributory negligence on the part of the plaintiff, but it sets up facts which in the contingency, hereafter to be noted, fastens upon the plaintiff the negligence as an independent fact—in other words, it states facts to the effect that the person responsible for the wiring within the mill was guilty of an act or omission which proximately caused the fire. If the plaintiff had furnished proof that the defendant was re-

sponsible for the condition of the instrumentalities within the mill and that those instrumentalities in their condition constituted a fire hazard, the alleged negligence would have been established; but the evidence showed and the Court found that the instrumentalities within the mill were plaintiff's, and that they constituted a fire hazard, the development of the proof and the finding of the Court in effect amended the complaint, and converted the potential allegation of contributory negligence into a positive assertion that the fire was caused by the negligence of the mill company. Therefore, contributory negligence or direct causal negligence on the part of the mill company appears from the complaint.

HOW DOES NEGLIGENCE ON THE PART OF PLAINTIFF OTHERWISE APPEAR FROM PLAINTIFF'S CASE?

The plaintiff placed upon the stand one Charles H. Stiles, a planerman, and on examination in chief he testified that he was employed by the Jordan Lumber Company, and says:

“My duties are to keep all the machinery up in shape and look after the tools, and the last two years it was my duty to look after all the lighting and power system and make all repairs.”

He also testified in chief concerning the installation of fuses, fuse-blocks, wires, sockets, drop-cords, conduits and connections with the motors in the mill, as did also the witness A. L. Jordan, manager for the plaintiff company. Now, when we take the above-

quoted testimony of Stiles, voluntarily given on direct examination in response to plaintiff's questioning, and substitute it in substance for the allegations in the complaint as to the defendant's duty in that connection, we have a specific allegation that the fire was caused, first, by the defective instrumentalities within the mill, and, second, by the failure of the mill company to properly install, inspect and keep them in repair, so that the contributory negligence or causal negligence on the part of the mill company appears both from the pleading and evidence, and comes squarely within the rules laid down by the Supreme Court of Montana and the courts of the country generally, in which it is held that, if contributory negligence appears from plaintiff's case, the plaintiff is not entitled to recover, even though such negligence be not set up as a defense.

POINTS AND AUTHORITIES IN REPLY TO BRIEF OF DEFENDANT IN ERROR.

Counsel for defendant in their brief submit four propositions to the Court:

1. That the alleged errors of the trial court are not properly before this court for review.
2. They invoke the doctrine that the appellate court will not reverse the judgment if the evidence is conflicting.
3. That the judgment is based on substantial evidence and that the evidence shows that the transformer did in fact leak.
4. That there is no showing of contributory negligence.

We think that the first contention is set at rest by the decision of this court in the case of *San Fernando Copper Min. Co. v. Humphrey*, 64 C. C. A. (9th Circuit) 544, and *King v. Smith*, 49 C. C. A. (9th Circuit) 46.

We also cite the case of *Chicago etc. Ry. Co. v. Minneapolis & St. Paul etc. Ry. Co.*, 100 C. C. A. 41, and *Chicago R. I. & P. Ry. Co. v. Barrett*, 111 C. C. A. (6th Circuit), 158.

The second contention is not pertinent here. We claim that there is no conflict in the evidence; that the testimony offered both by plaintiff and defendant without conflict or qualification is to the effect that there must have been a leakage in the transformer before a fire hazard, attributable to the negligence of the power company, would be created. The Court made special findings of fact, and these findings covered every issue in the case, and concerning the issue as to the leakage in the transformer the Court found for the power company.

The third ground is that the judgment is based on substantial evidence, and in support of this counsel argue against the finding of the Court as to the condition of the transformers, and appeals to the speculation and theorizing of the mill company's witnesses as to what might have caused a leak in the transformer.

As to the fourth contention, that is, the discussion as to the showing of contributory negligence, we think we have fully discussed that question and shown wherein contributory negligence is shown by plaintiff's case.

In their brief and on oral argument, counsel for defendant in error attacked the findings of the Court to the effect that the transformer was not defective, and argue that the evidence shows that the apparatus did in fact leak.

In support of this contention counsel read from the testimony of Mr. Kimmel as given on pages 64 and 65 of the transcript. The most casual examination of the testimony, however, as quoted by counsel, will demonstrate that the witness had in mind at all times a supposed defective transformer. At page 64 the first sentence discloses this fact:

“The connection between the primary and secondary with a 2000 volt circuit would, of course, be scattered throughout that mill.”

It is clear that the witness was expressing an opinion based on the hypothesis that the transformer had leaked.

On page 65 counsel read from the record as follows:

“Can you eliminate the fact that the transformer was afire and still form an intelligent opinion about this fire, or not?”

In answer to this question the witness said that it was not necessary for the transformer to be actually afire, but that the fact that it was afire strengthened his opinion, and he thought that the leakage actually occurred. This is shown by his answer to the next question found at bottom of page 66:

“Well, the transformer was described to be afire at the same time that the mill was afire, and

in addition to that, there were two simultaneous fires: One in the transformer and one in the mill. That, to my notion, would tend to make me believe that an arc thru the one caused the fire in the other. An arc thru the transformer caused the fire in the mill.”

Respectfully submitted,

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